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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,294	02/12/2002	Henrik Jensen	BP 2107	4917
7590		07/12/2005	EXAMINER	
Timothy W. Markison		KIM, KEVIN		
P.O. Box 160727				
Austin, TX 78716-0727		ART UNIT		
		2638		
		PAPER NUMBER		

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/074,294

Applicant(s)

JENSEN ET AL.

Examiner

Kevin Y. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2002.
- 2a) ☐ This action is **FINAL**.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10-14, 19-22 and 27 is/are rejected.
- 7) ☒ Claim(s) 6-9, 15-18 and 23-26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) ☐ All b) ☐ Some \* c) ☐ None of:
      - 1. ☐ Certified copies of the priority documents have been received.
      - 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,4,5,10,11,13,14,19-22 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Lu (US 5,991,346).

Claims 1,11 and 20.

Lu discloses a method for determining an optimum sampling time for data recovery, comprising the steps of;

receiving an encoded signal, i.e., NRZ data signal, which has positive and negative values with respect to a reference (see Fig.3)

determining a reference crossing of the encoded signal, i.e., a zero crossing, see col.5, lines 1-7,

determining a sampling phase based on the zero crossing and the symbol rate, see col.5, lines 7-11, and

sampling the encoded signal at the determined sampling phase.

Additionally with respect to Claim 11, Lu disclose all the subject matter claimed as explained above. Further Lu teaches a programmed DSP to carry out the process, i.e., using a processor and instructions stored in a memory. See col.3, lines 31-39.

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Additionally with respect to 20, Lu disclose all the subject matter claimed as explained above but does not describe radio receiver components including an LNA, IF downconverter, bandpass filter, A/D and a demodulator. However, there are all well known and commonly used radio receiver components and thus would have been obviously used by Lu when its signal is transmitter over the radio communication to receive GSM communication signal. See col.1, lines 23-24.

Claims 4,13 and 21.

It is well established that the NRZ encoded signal, such as used by Lu, contains a clock signal and thus the symbol rate is determined based on the encoded data.

Claims 5,14 and 22.

An initial sampling phase is set and utilized before a midpoint is found between zero crossings.

Claims 10,19 and 27.

Lu teaches that the symbol time includes a plurality of oversampling times. See col. 5, lines 27-39.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lu, as applied to claim 1 above and in view of Serfaty et al (US 4,651,026).

Lu discloses all the subject matter claimed except for the encoded signal being a multi-leveled one having "third data values" and "fourth data values." Serfaty et al disclose a need for achieving optimum sampling time in a multi-level signal. see col.3, line 62 – col.4, line 2.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to recover a multi-level signal such as disclosed by Serfaty by using the sampling time determination method of Lu for the purpose of proving an optimum sampling point to the received multi-leveled signal.

6. Claims 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu, as applied to claim 1 above and in view of Roberts et al (US 4,575,683).

Lu discloses all the subject matter claimed except for determining and removing a DC offset in the received encoded signal. Roberts et al teach a method of determining and removing a DC offset in the received encoded signal. See Fig. 1, 2A, 2B, 3A and 3B. Thus, it would have

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been obvious to one skilled in the art at the time the invention was made to determine and removing a DC offset in the received signal of Lu prior to sampling for the purpose of providing dc offset compensated signal for more accurate decoding the received signal.

***Allowable Subject Matter***

7. Claims 6-9,15-18,23-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Claim Objections***

8. Claims 22 and 23 are objected to because of the following informalities: These claims are written as dependent on claim "11." But this dependency appears to be erroneous as the claims are further limitation to "The radio receiver" recited in claim 20 or claim 21. For examination purposes, claims 22 and 23 have been treated as dependent on claim 20. Appropriate correction is required.

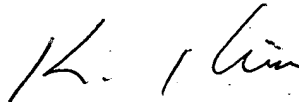
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Venderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KEVIN KIM  
PATENT EXAMINER

A handwritten signature in black ink, appearing to read "K. Kim", is written below the printed name and title.